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**IRRIGATION, WATER MANAGEMENT, AND  
DEVELOPMENT IN THE ZAMBEZI VALLEY:**

**The Case of Chitsungo Ward**

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# ABSTRACT

This paper focuses on irrigation, water management, and development in Chitsungu Ward in the Zambezi valley. It is an analysis of how the Dande Irrigation Project, which is mid-way under construction, has and is perceived to affect the local people. The paper focuses on how the potential beneficiaries of the scheme are trying to adapt the project to their life-world. This analysis, therefore, looks into why and how new patterns of relationships shape themselves around crucial resources such as water and land. The contention throughout the paper is that the project structure and organisation should not only be feasible from the technical point of view but must also be sustainable in socio-economic and institutional terms. I argue in the paper that consistent with national policies, interventions must be formulated to enhance cost recovery and cost efficiency while at the same time addressing key institutional issues such as leadership legitimacy, regulations and legislation, responsibility and accountability, and requisite skills within which beneficiary participation is enhanced. It is against this background that water management comes as a central and potentially explosive issue in irrigation management. For practical purposes of policy making, planning and implementing a people-friendly irrigation project, this paper highlights some of the overlooked cultural and social processes of change, together with the consequences and outcomes of such interventions.

## 1. INTRODUCTION

The study is about how the irrigation context creates and promotes some processes of ethnic and cultural identity and social difference among the "Valley people". It brings to the spotlight how these social and ethnic differences led to social conflicts and struggles for leadership. This also leads to different individual actors devising strategies such as allocating land to immigrants as a way of engaging them into local contestations and struggles to reach their various and often conflicting goals. As such, the analysis portrays the Dande Irrigation Project (DIP) as a political and social "domain" in which different groups of farmers and change agents engage each other in negotiations over resources and meanings attached to them, particularly land and water.

From the outset, the central argument is that people will accept and take advantage of a new development project when desperate for settlement land or when they are worried about losing their tenurial rights to a piece of land, but what they do with it is something else (Magadlela, 2000:4). As such, some people might reject a development project because they feel it is being imposed from outside, and yet go on to establish relationships and networks with those committed to the project in order to benefit from the same project they were not interested in.

To put the study in context, it is important to understand development intervention from a theoretical viewpoint. It is important to note that theoretical paradigms of planned intervention of the 1960s and the 1970s through to the early 1980s had linear, blueprint mechanical views of development intervention. They viewed development as a process that consisted of policy implementation and outcomes. Long and van der Ploeg (1989:167) argue that local groups actively formulate and pursue their own development projects that often clash with the interests of central authority. Thus the nature and character of intervention is seen as an outcome of interaction between different actors involved in the process at different levels and stages. Van der Zaag (1992:213) argued that, "since intervention, much like research activity, involves a learning process, it can never be planned for from the outset."

In this study, development intervention is treated as an interactive and processual activity where different actors are constantly engaged in struggles and negotiations to shape the outcomes of their various activities and to serve their group or individual interests. The approach calls for effective locally based ways of understanding the life-worlds of the different actors in the development process (Long, 1992:5). Besides, the approach places social actors as "active participants who process the information and strategize in their dealings with some local actors as well as interveners" (*ibid.*: 21). As such, social organization is linked to the notion of "emergent social forms" ranging from informal groups and networks with less structured forms to formally recognized associations of farmers such as the Chitsungu Farmers' Association and the Lower Gurusu Development Association (LGDA). The actor-oriented perspective and its related methods of

investigation help in the interpretation of responses at all levels, as Long (1989: 9) put it, "An actor-oriented approach requires a full analysis of the ways in which different actors manage and interpret new elements in their life-worlds".

The general objectives of this study were to find out and analyze how the differentially placed actors in Chitsungu ward in Guruve District responded and reacted to planned change, specifically the DIP. The specific objectives were to:

- Examine the role of traditional institutions of authority vis-à-vis project planners on what they considered as people's rights to water and resettlement;
- Investigate the responses of spirit mediums to both the dam and irrigation project and how the project seeks to involve/exclude them;
- Assess local people's willingness and ability to pay for water; and
- To find out the determinant processes for beneficiary selection into the new scheme.

## **2. BACKGROUND TO THE DANDE IRRIGATION PROJECT**

Roder (1965), Rukuni (1984), Rukuni and Makadho (1994) and Manzungu *et al.* (1999) gave detailed accounts of how and under what circumstances smallholder irrigation schemes evolved in Zimbabwe. The space here would not do justice to the large volumes of literature on smallholder irrigation. However, this part of the analysis introduces the background and setting of this sociological study of the DIP intervention. It places the development and ongoing debate on the DIP in its political and social context within the irrigation policy.

It is crucial to grasp the context in which smallholder irrigation schemes are constructed. As such, this will help in the analysis of shifts in policy objectives within the agricultural sector, especially in light of the fact that these schemes were meant just to settle landless people, "not to make them rich", but gradually that perception changed to something like "they must be economically viable", and they must not depend on government subsidies (Magadlela, 2000:35). The historical background of smallholder irrigation schemes can best be understood if put in the larger framework of colonial agricultural development policy, which was predicated on a dual agricultural system that favoured large-scale commercial (mostly European) farmers against smallholder African farmers.

Government started its active involvement in smallholder irrigation in 1926, but there was too much involvement rendering plot holders who identified with the projects to regard the schemes as government property (Rukuni and Makadho, 1994:128,129). Thus the main reason governments first promoted smallholder irrigation was to relieve famine and enhance food security. These small schemes were regarded as a form of insurance against poor harvests and as cash generating ventures to take care of tax demands (Meinzen-Dick, 1993:4; Rukuni and Makadho, 1994:128-9).

There was a shift in irrigation policy in 1935 when Emory Alvord returned from a trip abroad. For the first time he advocated full-time irrigation without dryland plots. It would seem that from 1935 there was less consultation, and less co-operation between the government and farmers in the development of new irrigation projects (Table 1).

**Table 1: Zimbabwe: Evolution of smallholder irrigation policy**

Period	Policy objectives
1912-1927	Missionaries encouraged irrigation development among small-scale farmers.
1928-1934	Government provided services and helped farmers develop irrigation schemes but farmers retained control.
1935-1945	Government took over management of communal irrigation schemes.
1946-1956	Land Apportionment Act of 1930 was amended and blacks were moved to Native Reserves. New irrigation schemes were created to resettle black farmers.
1957-1965	Government curtailed development of new schemes because they were not cost effective.
1966-1980	Government policy of separate development for blacks and whites continued and the strategy of rural growth points, mostly based on irrigation, was introduced.
1981-1990	Government policy (?) emphasised reduction of irrigation subsidies and greater farmer participation in the design, financing and management of schemes.

Source: Adapted from Roder (1965), Rukuni (1984), and Rukuni and Makadho (1994:130).

From the way smallholder schemes were put up, one can see the way official attitudes and practices have changed, but there is little evidence in the literature on how farmers dealt with different types of changes in their lives.

It is against this background that the DIP was identified in the 1980s (Government of the Republic of Zimbabwe, 1993:1). The DIP was an appendage of the Mid-Zambezi Valley Rural Development Project (MZVRDP). The MZVRDP was the first major post-independence development project in the Zambezi valley (Derman 1997:68). The project was initiated in 1987 with funding from the African Development Bank and employed only Zimbabweans. Thus a rationale for such an intervention was that population levels combined with current land use patterns would degrade the Valley's fragile ecology. Derman (*ibid.*: 6) argued that large scale planned interventions were required to compel farmers into more rational units of production and social organisation.

The feasibility study for the DIP was completed in 1995. Under the DIP, five thousand hectares of land between the Manyame and Dande Rivers would be made irrigable. According to the Government of the Republic of Zimbabwe (1993:54) the outcome from the feasibility study was that the DIP was a sustainable and profitable venture. They proposed that much of the decision-making regarding the organisation of irrigation perimeters, the allocation of water, and marketing of crops should be community-based. They also envisioned that the technology had to be cost effective, simple and appropriate, client oriented, easily diffused, and validated among water users (Derman, 1996:35). There was also a concern whether participants in this irrigation scheme could meet the fees for its operation.

In the early years after independence the government pursued a strategy of encouraging farmers to learn to run the schemes themselves through the promotion of Irrigation Management Committees (IMC) (Magadela, 2000:36). Most smallholder schemes were characterised by heavy government intervention and or involvement.

As a food security strategy for subsistence purposes, the irrigation schemes did meet their objectives in most cases (*ibid.*). As a result, this seemed to confirm the government's maintenance of subsidies in smallholder irrigation schemes on the grounds that they were politically and socially desirable for improving household food security (Department for Rural Development (DERUDE), 1983; Rukuni and Eicher, 1987; Pazvakavambwa, 1994). The DIP was designed, among other things, to improve the living standards of the people in the Zambezi valley and also act as a viable commercial enterprise that significantly contributed to

the economy. At the same time in the early 1990s government policy emphasized a reduction of irrigation subsidies and greater farmer participation in the design, financing, and management of smallholder schemes (Roder 1965; Rukuni 1984; Bourdillon and Madzudzo 1994; Rukuni and Makadho 1994:130). It remains to be seen whether or not the planners of the DIP have taken into consideration some of these policy shifts in irrigation intervention.

### 3. LOCATION OF CHITSUNGO WARD (WARD 10)

Chitsungu ward is located in the Mid-Zambezi valley, about 270 km north west of Harare in the Guruve District of Mashonaland Central Province (Figure 1). Its southern boundary is formed by the foot of the Zambezi escarpment. The Manyame river defines the western boundary, and its eastern boundary is formed by Ward 9 (Mushumbi Pools). The northern side of the study area is bordered by the confluence of the Manyame and Dande rivers (Figure 2).

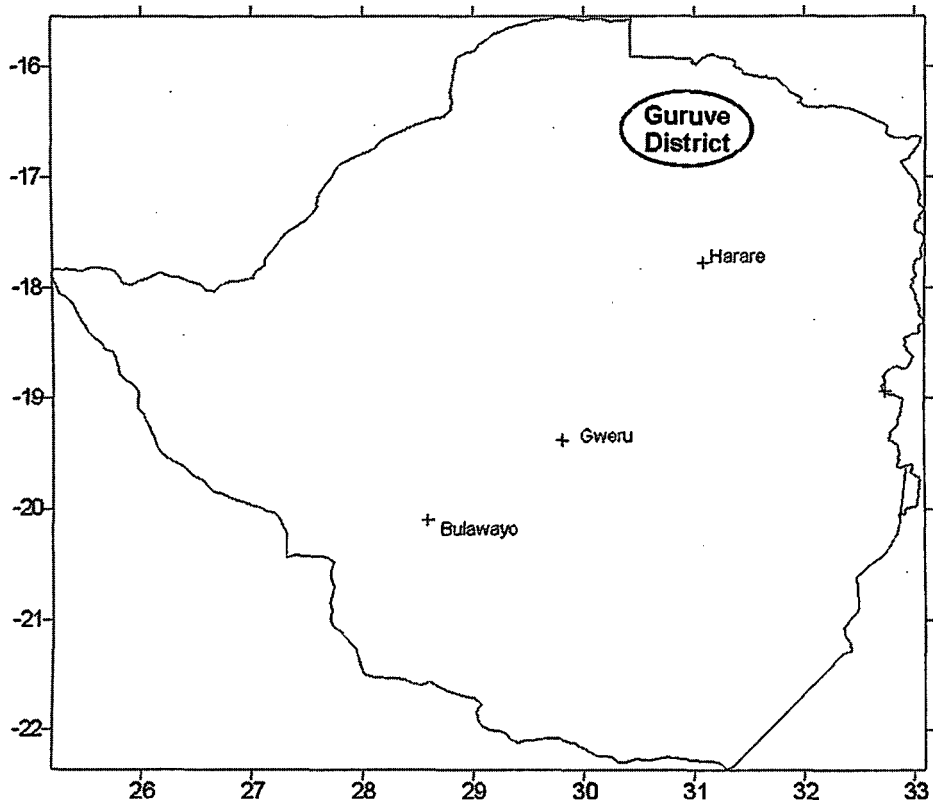
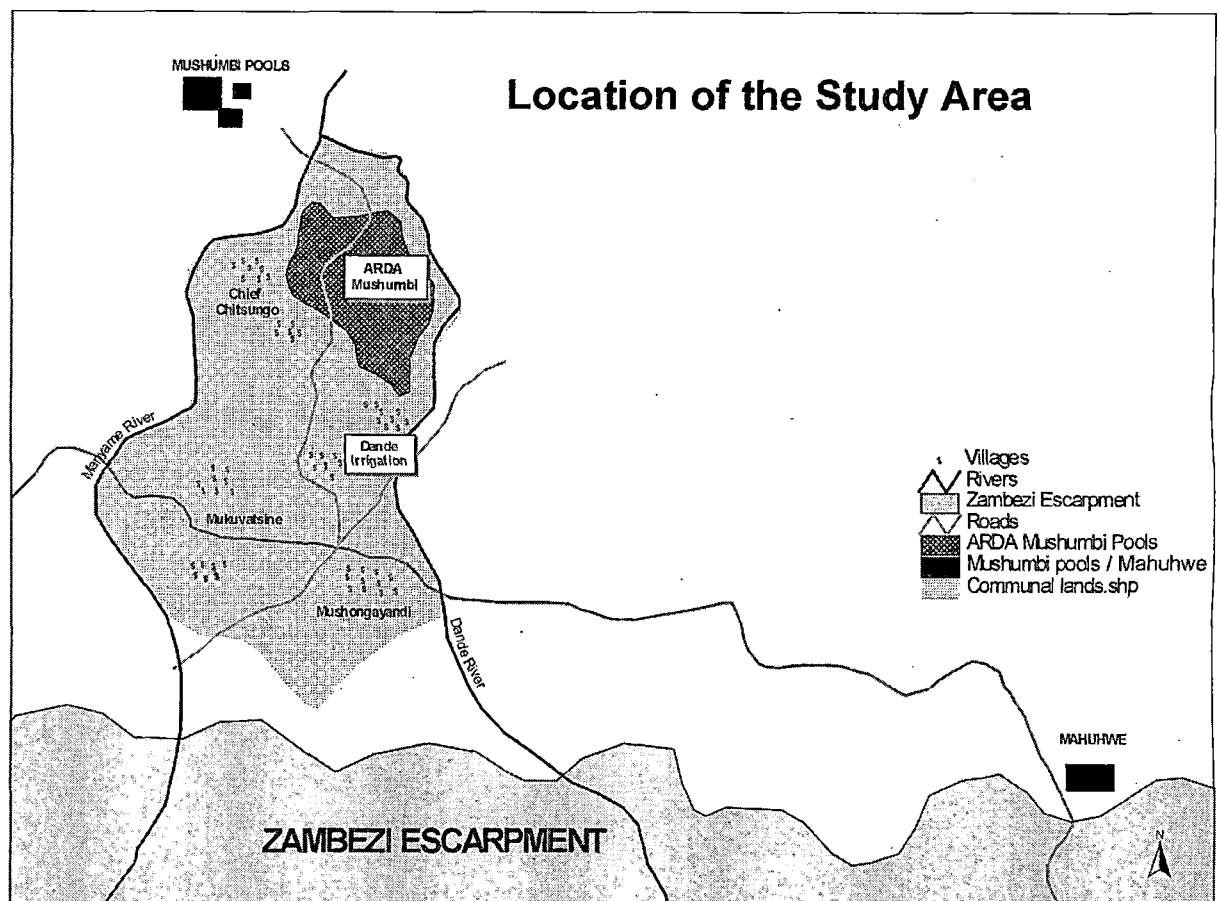


Figure 1: Map of Zimbabwe showing the location of Guruve District where the Dande Irrigation Project is located.



**Figure 2: Map showing the project area (Chitsungo, Ward 10)**

A storage reservoir and dam were being constructed to regulate the Dande River. The dam site is located at Chifanha Hill in Kachuta, about 27 km north west of Gurube.

The main part of the study area is located in Natural Region IV. The zone is defined as a semi-extensive farming region. The region is subject to periodic seasonal droughts and severe dry spells during the rain season. The average yearly rainfall is 765 mm, with significant variations over the years. The mean temperature in the winter season exceeds 19°C, which is too high for a large range of winter crops such as wheat. Thus temperature restricts the choice of crops. The whole DIP is estimated to cover 5000 ha and it falls within Chitsungo ward.

In terms of demographic trends, Chitsungo had ten thousand two hundred and eighty people (CSO, 1992 census cited by Derman, 1995:18). The total number of households was 1 972 with an average size per household of 5.2 (*ibid.*). I selected Chitsungo ward because the whole DIP falls within the ward.

#### **4. RESEARCH METHODOLOGY**

The study was conducted during the period July to October, 2001. However, the exploratory visit was done in March, 2001. My options were limited by the inaccessibility of some parts of the research area due to the perceived or real political contestations during the run up to the presidential elections of 2002. Thus conducting research on a development project that had not started operating required the use of methods that brought out the dynamism of social change and not be blind to the numerous issues of social interaction that took place and shaped the studied people's life-world. Qualitative methods were more suitable for such situations and, as Hammersley (1989:2) put it, they involve a devotion to "the study of local and small-scale social situations in preference to analysis at the societal or psychological levels. They stress the diversity

and the variability of social life and have a concern with capturing the myriad perspectives of participants in the social world". Case studies, network analysis, direct observation, dialogue and "informal discussions" played an important role in data collection and helped me to pick out and record issues that at first seemed trivial but turned out to be contested.

I interviewed the local member of parliament (MP) and two councillors. I tried my best to be part of the Valley residents and share their experiences. However, now and again I would feel uncomfortable with the ethnic differences, especially when conversing with the indigenous Valley residents. Nevertheless most of the interviewees tried their best, with some difficulties though, to make me feel at home. However, my engagement of Cosmos Chiunze, a Korekore and an indigenous resident of the Valley, raised eyebrows within some camps. The issue was resolved when the MP, the councillor and other elders endorsed Cosmos as an honest young man who upheld local customs, and hence was an appropriate research assistant.

Most of the data was collected through unstructured questions, especially on issues to do with local leadership, rights to resources, and settlement. The same method was applied on the role of spirit mediums and how they related to the DIP project, and the project to them. The use of unstructured questions helped in getting detail from the interviewees. As such, this enabled me to collect as much detailed data as possible without restrictions on the issues to be discussed. It also gave me room to follow leads to outstanding issues. On issues to do with ability and willingness to pay for irrigation water, I used semi-structured interviews (see copies in appendices). I felt that the data I wanted was more to do with people's perceptions and attitudes. In order to have as close to a uniform application of the questions to each respondent, I felt that semi-structured interviews would be ideal, especially when trying to elicit such responses. As such, semi-structured interviews and direct observation were mainly used to gather information on the specific cases selected and on the compilation of life histories. I also managed to attend three meetings in the Ward, where I observed how the villagers and their committees conducted their meetings and how different people participated or failed to participate. Direct observations were a fitting way for detailing the everyday life situation and events of the different actors in Ward 10. Apart from that it was one of the most convincing methods usable within the limits of the research period and funding.

I selected case studies of villages and individuals based on their potential to address my research objectives. I had to drop some of them after realizing that they were not conversant with the issues at stake. Such cases served as the basis for providing the nuance data necessary to understand the complex connections between structural change and individual experience. Through cases, one could observe how the individual or other actors arrived at certain decisions, how they manipulated resources of different kinds such as knowledge and claims of legitimacy to power in order to serve their various individual or group interests. As Ragin (1994a:2) argued, "at a minimum, every study is a case study because it is an analysis of social phenomena specific to time and place". On the other hand Magadlela (2000) pointed out that the "cases selected should provide a good picture of the diversity and differentiation existing within [an] area". This was relevant and related to the actor-oriented framework of the sociological study of a development project. It helped to highlight the differential responses to certain circumstances (*ibid.*).

Existing records and documents on the research area were used to provide more information, especially on background and historical issues. Useful materials of this nature included feasibility reports from the consultants, historical records from the National Archives, and secondary literature on the research area.

I administered questionnaires to 165 households in Chitsungu ward that were accessible. These households constituted the majority of the intended beneficiaries of the DIP. The key informants interviewed are listed in Appendix 1.

## 5. RESEARCH RESULTS AND ANALYSIS

### a) Stories from the Villages: Leadership and Responsibilities

In trying to come up with answers to the question, "What are the peoples rights to water and resettlement land?" the differentially placed people of Dande had varying responses. On a general note, varieties of social difference, particularly religious affiliation and ethnic origin led to differential perceptions of their common situation. The indigenous Korekore people, it seems, were generally skeptical and worried about the introduction of irrigation in their community and its impact on their social and cultural structures. The majority of the people interviewed, 68% in this category, felt that the DIP would further entrench the ever-widening gap between the original indigenous Valley people and the "settlers", *vaui*, who seemed to control the political and economic aspects of life in the Valley. As one villager put it:

*"My son, we have lost all the social integration we used to enjoy down here. I do not have to tell you how the settlers disregarded our hierarchy of authority let alone their shunning of local rituals. You see, we are facing a drought in this Valley because these people have chosen not to listen to the Mhondoro."*

On the question of what rights people had to water and land, there appeared to be a general consensus in terms of what people regarded as "rights to water." Their perception of rights to water was embedded within the social, cultural and spiritual world. The valley people agreed that water was a God-given resource therefore it should be shared equally and without restraint. The people in Chitsungu ward understood rights to refer to the informal translation of perceived entitlements into practice. This seemed to lean towards African conceptions of group/community rights as opposed to individual rights (as understood in European circles).

Although the villagers in Chitsungu appeared to have a common understanding on water use and rights, what they practised in water allocation was different. The Borehole Committee felt that it had regulatory power governing the use and allocation of the precious resource. One committee member, Mr. Mudembo, put it succinctly:

*"People have to understand that for the sustainability and longevity of the operational life of the boreholes, we, the committee work hard to make sure people do not vandalise, overuse and neglect the water source."*

Most people seemed to agree with Mr. Mudembo about the role of the Borehole Committee. However, a few villagers felt that the Committee was only meant to disenfranchise other groups of people and also to silence dissenting voices. Unfortunately, the Borehole Committee was composed of immigrants who formed the majority with only one indigenous Korekore. There were allegations of flouting the water use regulations by some powerful and relatively wealthier members of the community. These ranged from accessing water during daytime when the borehole was not supposed to be functional to jumping the queue when drawing water from the borehole. Apart from all the foregoing, it seemed that there were no clearly defined rights, roles and responsibilities with regard to water allocation, management and use.

But who was better positioned to shoulder such a responsibility? Who should have allocated resources such as water and land? Data compiled in response to these questions raised more debate and controversy on the ability of the impending irrigation scheme to dovetail with the needs, rights and expectations of the people in the project area. The people in Ward 10 were divided in regard to "who should have been responsible for allocating water".

In one camp, mainly composed of immigrants and civil servants, there were people who strongly believed that the district council should have been responsible for allocating water in the new scheme. The premise of their argument was that since the irrigation project was a government initiative, the local authority should have overseen the allocation of water and land to project beneficiaries. Added to that, this view was also backed by the argument that the Department of Water Development should have complemented the fast track or accelerated land reform programme instituted by the government through "giving water to the people". Councillor Kaumbembe stated that council should have designated authority to the villagers to form water user groups under the irrigation committee. He added that council had the responsibility of



allocating land or settling/resettling people on all state land on behalf of the Minister of Lands, Agriculture and Rural Resettlement. He also felt that when the project is launched the candidature of each beneficiary in the scheme needed to be thoroughly scrutinized. On the other hand, some people felt that since council was doing little to improve the valley people's livelihoods, the allocation and management of water should have been under the guidance of extension officers and local traditional leaders. The extension officer interviewed was reluctant to give information because he had to get permission from his superiors since the DIP was a "politically sensitive area."

People with origins in the Valley, those of Korekore ethnicity, seemed to speak with one voice in their dealings with the new settlers. They felt that since time immemorial their ancestors had been living in the Valley using water and other resources that were provided and protected by the *mhondoros*. It is along this belief and reasoning that the majority of people in this group seemed reluctant to accept the irrigation project. Given that they regarded water management as a preserve for the spirit realm, they argued that there was no need to ask about who had rights to allocate water, rather, there was need to ask why the allocation of resources and protection of Valley livelihoods was being taken away from its rightful heirs. They alleged that if water management, use, and allocation were done without the blessings of the *Mhondoro*, the DIP might fail to take off. As one elderly man lamented:

*"Look, the DIP should have started operating two years ago, but there seem to be witches here and there, and these people [The D.I.P planners] do not understand why it is taking them so long. Most people here know why. These people have not made proper consultations, let alone sought the assistance of the mhondoros in the whole process."*

#### **b) Land and Associated Rights: Whose Land Rights?**

Given that the sentiments, views and perspectives that dominated the issue of water rights were also shared and encroached onto the debate on land rights, this section focuses on issues that appear to be different. Debate on land issues has been at the centre of development issues in Zimbabwe in general, and the Zambezi valley in particular. Given that people were settled and resettled in the Zambezi valley since the early 1980s, the introduction of the DIP seemed to unravel age-old questions and issues, and opened fresh views of controversy.

People in Ward 10 understood and appreciated that the government resettled them. Ninety two percent of the settlers interviewed felt that they have primary rights to use the land as well as its ownership. According to the settlers and an Agritex officer, the average size of land for each household was 5 ha. To begin with, most settlers who migrated to the valley from different parts of the country were eager to express their use rights of the land and were lucky to have a piece of land they called their own. The majority of people in this category felt that the introduction of the DIP would alleviate most of their problems and might open new windows of fortune to the Valley people. They appeared more willing to accept the scheme and felt that it had been long overdue. People in this category seemed to have more knowledge about the irrigation project since most of them were aware of the idea of new plot sizes in the new scheme, let alone the anticipated benefits from the new development. Some of them had emigrated from areas where some irrigation was practised and considered this development as one way for them to participate in all year round cultivation of crops. However, most people did not know how the beneficiaries of the new scheme were going to be selected and whether they would retain the plots they had.

It is against this background that some of the migrants felt insecure. One such person who was uncertain was VaSakuchera; he was afraid that since there were no clear guidelines about the selection of beneficiaries into the project, the planners might choose to sideline people who had settled in the valley recently. He argued that there were no land rights to talk about because people were not sure about their fate when the irrigation scheme began to operate. There were issues to do with compensation, relocation and the dilemmas of failing to meet the standards in the event that one was admitted into the irrigation project.

Most elderly men (and some women) of Korekore ethnicity, who were a minority in Ward 10, claimed that they were the heirs to Valley land although most of them felt that they had been disenfranchised. People of Korekore origin were unsettled by the idea that the introduction of the irrigation scheme would mean that they had to lose some of their land again. Most of them were bitter that they had lost their riverine gardens

to what they called “a notorious and inhuman piece of legislation”, the Stream Bank Cultivation Act, which prohibited the cultivation of land within thirty metres from a river or stream and other water sources. They were suspicious that the DIP was another ploy to try and dispossess them of their plots in the same manner that was applied when they were prohibited from using their riverine gardens. However, they argued that if the DIP was going to be fairly implemented, with consultations from all interested parties, especially the traditional leaders and *mhondoros*, the farmers viewed the proposed scheme as enabling them to be self-sufficient in their food requirements all year round. They also said that they appreciated the advantage of having water all year round through the irrigation facility.

On the whole, there was a critical disjunction between the potential beneficiaries and the scheme planners as to what irrigated agriculture would entail. Consequently, most of the farmers who were interviewed felt this scheme would mean that the local “authorities” would have more say on the use of land resources than the farmers themselves. There was also a fear of eviction from the irrigation project in the event of failure to meet the set standards involved in year round cash cropping.

The indigenous Korekore farmers in Chitsungo felt the security of tenure that they had would be reduced, if not eroded. Some, therefore, would have appreciated it if they had been allowed to maintain dryland cultivation elsewhere to complement the irrigable cash crop plot on the scheme. They argued that they were not aware of the finer details but word had been going round that those who would benefit from the irrigation project would not be allowed to practise dryland farming. They were not clear why they should not have been allowed to do so if the scheme was meant to benefit them.

### **c) What Are You Talking About? Mhondoros as Custodians of Ancestral Land?**

My first encounter and interview with a local spirit medium (*svikiro*) was in October 2001. I visited the *Svikiro's* homestead with the assistance of my local guide/research assistant. A local councillor had informed me earlier that if I was serious about my intention to consult the spirit medium I had to visit him in the company of an indigenous Valley resident. Rightly so, my assistant was a Korekore and a valley resident.

The *Svikiro's* homestead did not look any different from other structures in the neighbourhood. As we approached the *Svikiro's* homestead, a young man met us. The young man asked whether or not we had an appointment with the *Svikiro* and further enquired on the purpose of our visit. My guide explained that I was doing some research in the Valley, Ward 10 to be specific. He went on to explain that we had visited the *Svikiro* to get his views and understanding about the planned and on-going projects in the Valley.

We were eventually allowed to get into the homestead and were offered a place to sit as in local custom. After formalities and introductions, my guide clapped his hands and asked to see vaMashapiko, the spirit medium. VaMashapiko was informed about our presence and intentions to talk to him. After a few minutes, he came dressed in a black cloth that was tied around his body across the shoulders. He asked us what we wanted to know and why we had decided to consult him. I explained that I was a student doing research on the DIP. That was the spur that triggered the ensuing encounter with the *Svikiro*.

“*What are you talking about?*”, responded the *Svikiro*. The spirit medium then asked me what the DIP was and who was behind it. He said:

*“What are you talking about? You people do not know what you want. How can you tell me that you have planned to irrigate my land without consulting the owners of the land. Tell me who is responsible for the fertility of this land. Why do you want to disturb my people.”*

At that point the atmosphere became tense and everybody was quiet. After a pose, I explained that we had sought to consult him about the whole issue and to get his views. The Spirit Medium explained how the local political leadership had been manipulated by some in-migrants with money to disregard the traditional institutions of authority. He complained about the plans to turn the Valley into an irrigation project without the blessings of the custodians of the land. Mashapiko pointed out that the land belonged to the ancestors, as such the *mhondoros* are supposed to guide all development interventions that affected the Valley residents. He went on to explain that the Guruve Rural District Council (GRDC) has brought a lot of confusion to Valley

people and was trying to organize people to disregard his authority and that of the chiefs and other spirit mediums.

Mashapiko was also bitter that traditional leaders in the valley had been stripped of their power to allocate land. He said:

*“...take the resettlement exercise that was done here, for example how can they force my people to abandon their riverine gardens, our source of livelihood for years. It is a pity that these people [the indigenous valley residents] have become victims of forced development. Ask all my people, they did not want to move from their settlements, but because they feared losing their land, they complied with the requirement of the RDC to relocate and cease cultivating their gardens.”*

Mashapiko, like other traditional leaders, had been stripped of some of his powers. He said that he was aware that the development of the DIP has been going on and that council had failed to mobilize local people, especially the indigenous Valley residents whose majority, the Spirit Medium claimed, were sympathetic with their traditional leaders. He charged that there are some renowned people who had been going around mobilizing people not to respect the traditional institutions of authority. He said that there was one vocal councillor in Chitsungo who openly declared that spirit mediums should only be responsible for rainmaking rituals.

Mashapiko also pointed out that the proposed irrigation scheme should have started operating but because the planners did not consult the *mhondoros*, the scheme might fail to operate unless and until the necessary rituals were performed. He also added that the *mhondoros* should have been at the centre of allocating plots to beneficiaries. This would also apply to the selection of beneficiaries. He said that if the planners had gone ahead with the project without the guidance of the *mhondoros*, the project was bound to fail in its infancy.

On what kind of water management he thought would be workable within the community, the Spirit Medium said that the *sabhukus* and *mhondoros* should oversee the management and use of water and land in the project; the indigenous residents of the Valley should not be left out. He, however, cautioned that the only way people would participate fully in the project was to make sure that the project fell within and operated in accordance with local values, customs and beliefs. He was quick to point out that most in-migrants that had been settling in the Valley did not respect their beliefs such as honouring sacred days, *zvisi* (*chisi* – singular). He also alleged that this disregard was a result of the “confusion” in the earlier settlement programme and what he called the haphazard way in which in-migrants were allocating land to new migrants and bypassing traditional leaders. He also pointed out that most of the migrants were the cause of poor rains in the Valley.

#### **d) Roles and Responsibilities of Sabhukus**

Sixty three percent (63%) of the people interviewed seemed to confuse the roles and responsibilities of the headman/headwoman (*sabhuku*) with that of a councillor. They claimed that when they wanted information about development in their communities, they consulted the councillor because he was better placed politically and was well recognised by government and council officials. This state of flux has led to the usurping of some duties that the *sabhukus* used to do as representatives of the chief. One villager, Muchaso Pikiri, pointed out that most people were now liaising with and aligned towards political leadership even on issues that they were required to consult the headman, such as impregnating of girls, gossip and other community problems.

Indigenous people in Chitsungo, at least those interviewed, were sympathetic with the traditional leaders, but alleged that these leaders had bias towards people from their home areas. As social actors, the headmen in the Ward devised ways to try and maintain their authority by allocating land, illegally though, in the areas designated for grazing. One example was that of the local headman who settled two new immigrant families, despite protests from the villagers. The protests only ended when the headman threatened to take action against all people who were settled in his area of jurisdiction without permission from him or council. This was one way the traditional leaders had managed to consolidate their power.

The promises and threats brought by the planned scheme had also been the centre of attraction for local power contestations. One headman was known for mobilizing his ardent followers not to co-operate with the DIP planners unless if and when he was consulted. On the other hand, villagers appeared to be confused given that traditional leaders were attributing the delay in the implementation and operation of the irrigation scheme to council and the government. This, they attributed to the lack of information about the irrigation project. They alleged that the planners were not updating them about developments regarding the future operation of the scheme. Those who appeared sympathetic towards the headman and other traditional institutions of authority found the allegations by their leaders appealing.

#### **e) Informal Leaders and Allocation of Land**

In cases where the traditional institutions of authority such as chiefs, *sabhukus* and *mhondoros* on the one hand seemed to have contestations and battles with the RDC on the right to allocate land, there had emerged a new group/cluster of people who manipulated these squabbles to allocate land. At the height of the land repossession/occupations by scores of villagers, those who had a history of involvement in the liberation struggle took the allocation of land as their responsibility. One such renowned activist was Comrade Muchapondwa (not real name), who got a home in the Valley and on the escarpment in Upper Guruve. Muchapondwa bypassed both the RDC and traditional authorities by allocating land to about five families near Manyame River to the west of the project area. The villagers alleged that no one questioned Muchapondwa yet the authorities knew he had settled people on land meant for grazing. People in Chitsungu, especially those in Village Three, had to take their animals for grazing a longer distance from their homesteads. That was another dimension to land allocation.

Villagers also alleged that the headmen were also involved in shady land allocation deals where those well connected to them would allocate land to new settlers and the headmen would not take any action under such situations. Normally, the relatives of the headmen would act as intermediaries in such cases. The headmen would then be notified so that the settlers would be recorded in the village register whereupon they were given a letter of acceptance. However, one of the new immigrants claimed that he already knew the headmen at a personal level and came from the same village in Bikita as three of his neighbours.

#### **f) Planners and Practitioners: Responses from ARDA and Extension Staff**

The local extension officer was reluctant to answer most of the questions that I asked. He decided to answer the questions that he was comfortable with. Nonetheless, I managed to visit the Agricultural and Rural Development Authority (ARDA) head office looking for more information about the DIP. It was at that point that I managed to get an insight into the sensitivity surrounding the project. I was referred to two officials, Mr. Muronda and Mrs. Mguni (pseudo names). After looking at my research proposal and the objectives, they gave me a copy of the Final Report on the DIP feasibility study. It was during this period that I was told that the project was not to be talked about in public because that might have jeopardised its success.

On my third visit I had a conversation with one of the officials, Mrs. Mguni. We debated at length about my proposed research and the sensitivity surrounding the project. She argued that since the irrigation project had not yet started operating, it would be wise to focus on other issues. She then asked me to change the objectives of my study. I responded by arguing that my intention was not to study an operating irrigation scheme but to see how different actors were involved/excluded from development intervention in smallholder irrigation designs. I told her that what I wanted to find out was whether the designing and planning of the irrigation scheme fitted the organisational capacities and patterns of the beneficiaries in terms of group decision-making and communication. The central issue was to get to understand the views, perspectives, aspirations and practices of the local people and come up with recommendations that would help in both academic debate on development interventions, and getting useful information that would help the benefiting community and the project planners. Mrs. Mguni reiterated that the DIP was a politically sensitive melting pot. She was quick to point out that her organization was planning awareness campaigns to sell the idea of the project to the people. I asked her how that could be, given that the feasibility study for the project was completed six years ago. Besides, construction work had already begun both at the dam site in Kachuta and at the opening of a tunnel joining the dam and the irrigation site. After the meeting with Mrs. Mguni, I decided that I would go on with my work plan.

In the Zambezi valley, I managed to visit the ARDA offices at Mushumbi estate. The extension officer I was referred to (hereafter-called Mr. Mbewe) also highlighted the problem of sensitivity about the proposed irrigation scheme. He, however, helped me by giving his personal opinions and experiences with the local people. His observation was that most farmers in Chitsungo and adjacent areas in the Valley were prepared to accept the project because of the perennial food shortages and water-related problems. He went on to state that the only problem was that the farmers did not have experience in irrigation farming; hence, implementing the project without intensive training of the farmers would be disastrous. Mr. Mbewe said that the authorities needed to understand the way people in the Valley organised their lives because any shift from their normal practices might jeopardize the project.

He gave an account of an encounter he had with some villagers on the use of hybrid and short-season crop varieties. He said that when the new seeds were distributed, only a few farmers used them. The majority of people, especially those who had lived in the Valley for a long time, did not use the product. Mr. Mbewe explained that when the farmers were asked why they did not use the distributed crop varieties they responded that new, so-called short season varieties introduced by outsiders were only meant to deny them good harvests. He also pointed out that some farmers in the Valley felt that it was improper to accept the new varieties without consulting the custodians of the land, the *mhondoros*, for fear of poor harvests. Mr. Mbewe said that if the DIP is implemented, for it to be a success the planners and practitioners should have a good understanding of the social, cultural and political environment within the community.

He went on to say that people in the project area would be relocated to new irrigation plots. The problems would be on security of tenure, especially on the issue of plot sizes. He said that people in Chitsungo and Mushumbi were aware that their plot sizes would be reduced in the event that they were selected to benefit from the scheme. As a result, some families mobilized their sons to ask for their own settlement land in areas such as Angwa and Chikafa. This was done so that if the families were allocated a plot in the irrigation scheme, some members of the household would still be practising dryland/rainfed agriculture. Mr. Mbewe said that he knew several families who had adopted that strategy. I asked him if such action meant that the scheme had failed before it even started. Mr. Mbewe argued that there was a lot of anxiety, suspicion and misinformation about the irrigation project in the villages. As a result, people were reacting by either finding alternative dryland plots now or by condemning the project. I asked him whether people were acting on misinformation because they had not been properly consulted or was it because there was no alternative information. Mr. Mbewe hinted that it could have been both. He told me that he would rather not comment further about the project in case my final document would fall into "wrong hands".

#### **g) Water, a Commercial or Social Resource?: Negotiating Water Regulation, Pricing and Payment Systems**

The people's attitudes and perceptions with regard to paying for water for irrigation were an interesting revelation. People in Chitsungo believed that water is a natural resource that should be utilised by people within the locality. The farmers in Chitsungo said that they appreciated the advantage of having water all year round through the irrigation facility. For that reason they felt that the irrigation scheme has taken too long to operate. Although most villagers were quick to point out that water was a natural-God-given resource, they differed on whether it should be paid for and where the money would go.

Seventy-eight percent of the people interviewed wanted to know why they should pay for water. They questioned the idea of paying for rainwater, harnessed for their benefit. They argued that if they were told why they should pay for water they would have to negotiate the prices and modes of payment. Recent immigrants, the majority of whom are Karangas from Masvingo, said that they were aware that water for irrigation was paid for so that some of the money would be used for maintaining the infrastructure. This was mainly a sentiment shared by people who moved to the Valley from some region where irrigation was practised.

On a general note, about 80% of the respondents were not aware of the institutions involved in the management and use of water, except the District Development Fund (DDF) which they associated with the repair and maintenance of roads and water facilities. The majority was not aware of the Zimbabwe National Water Authority, the catchment councils, and such third-tier units as water user boards/units. They said that they

had never heard about such institutions. Those that claimed knowledge of the above institutions lacked details on the functions, roles and responsibilities of the institutions.

On water payment systems, most women and men interviewed felt that they had to be informed about the payment systems, whether it was going to be based on the actual water used or on a fixed rate. They claimed that this would give them many options on whether to join the scheme or not. Besides, they said that such information was important because it gave them enough time to make preparations to invest in water for agriculture as a long-term strategy than as an *ad hoc* arrangement. As one villager, Mai Chiponda, put it:

*"These people [the scheme planners] want to cheat us. Why is it that they do not tell us anything about these issues yet they have gone ahead to engage the Chinese people to work on the project. So people from China know better about development in our area! What would you do if the same happens in your [referring to me] home area. Would you take such people seriously when and if they eventually come to notify you. Is it not true that the people from China would go and we will be here. I would not be surprised if I am told that people in Harare already know who they want in the scheme, what services would be available and other requirements."*

It is such sentiments that kept me wondering whether there was something "wrong" with the design of the project or rather something peculiar about the attitudes and perceptions of people in Ward 10.

At the end of the day one could say that the people in Ward 10 had little or no information about a project in which they would be beneficiaries. As such, many of them associated the project with dishonesty, suspicion and felt threatened because they felt that if it was "their" project they were supposed to be the first to know. The people said that they were now tired of getting bits and pieces of information about the project and yet someone was sitting on the information somewhere.

Local villagers of the indigenous Korekore and Chikunda groups (Bourdillon, 1986) were displaced from their original villages and gardens when resettlement under the MZVDP began. The immigrant settlers regarded the Chikunda and indigenous Valley Korekore as averse to change and/or development intervention in its various forms. For example, the nutrition gardens or community gardens run under the auspices of the Lower Guruve Development Association (LGDA) in Chitsungu were not functional. One of the villagers told me that the problem with community gardens was that the immigrant farmers tried to disregard the agreed set rules and belief systems such as honouring the sacred days, *zvisi*. She pointed out that immigrant women should have consulted them (indigenous Valley residents) on the availability of water and its patterns of flow, especially in partially swampy or vleilike areas where the gardens were located.

On the other hand, immigrant farmers felt that the indigenous residents of the Valley were responsible for the collapse of community gardens. They alleged that indigenous Valley people thought and felt they were superior, and hence were not willing to contribute their efforts in the management of the gardens. One of the immigrant farmers said:

*"It is not necessary to force these people (some indigenous Valley people) into the garden projects if they do not wish to commit themselves to the project. People should not be forced to participate, but at the same time they must not stand in our path, to disturb and jeopardise our plans. I know it is not all the indigenous Valley residents who behave in that manner, there are a lot of them who are committed to the local projects. Besides, our political leadership here knows very well that people who try to derail the decisions of the government would be thrown out of the garden projects, and might not be allowed to join the irrigation scheme when it starts operating."*

The knowledge of water payment or rather preferred payment system was entangled in the politics of who should set the prices and where the money goes. Many farmers felt that in the "unlikely" event that they would be asked to pay for water for irrigation, they would have to weigh the potential gains of being beneficiaries in the scheme against the prices of water charges. The same applies to other such levies as may be deemed necessary by the scheme planners. One farmer pointed out that since the government was introducing the irrigation scheme in order to alleviate food shortages, it was noble to set minimal water charges for irrigation purposes. This would enable the farmers to identify with and commit themselves to

the project. However, the farmer went on to say that water should have been equated to land, and as such it should not be paid for since it was a God-given product. Besides, some farmers were worried about the uncertainty of water pricing and payment systems to the extent that they were not sure about how much they were expected to invest in water use and management. They said that they were worried that joining the scheme might be worse than rainfed agriculture because no one had bothered to get their views and provided them with more information, yet construction of the infrastructure had been going on for sometime.

## **6. DISCUSSION: IRRIGATION DEVELOPMENT, A SOCIALLY CONTESTED DOMAIN**

This study locates the theoretical issues raised in the findings within the field of rural development with a focus on smallholder irrigation in Zimbabwe. Given that literature on smallholder irrigation development in Zimbabwe is thin on sociological issues, and that irrigation studies have focused mainly on the economic and technical aspects of design and performance; a micro-focused, thorough and detailed understanding of social processes (at grassroots level) in situations of development intervention is required. Moreover, there has been a lack of concern and commitment to understand how smallholder irrigation development affects and is affected by the different social actors involved. This part is, therefore, an attempt to discuss, from an actor-oriented theoretical perspective, the construction of multiple realities in Chitsungu at the onset of an irrigation scheme.

It is fascinating to note that the whole process of project design and implementation has attracted outspoken opposition from the Korekore and Chikunda in Chitsungu, combined with much foot-dragging and resistance to implementation. This is the major reason why the project has taken so long to be completed. While Valley residents do not speak with one voice on most issues regarding the irrigation scheme, there is strong consensus that with proper consultations many of them might accept the development project. From the cases presented in Chitsungu, it is clear that there are many residents who support some elements of the project.

More recent migrants to the Valley who have relatively small pieces of land for farming and those who did not have clear use rights to land are enthusiastic about the irrigation scheme because they look forward to official allocation. These migrants and kin of both long-term Valley residents and indigenous Valley people were settled on pieces of land designated for animal grazing. This undermines any attempts at land use planning and throws the whole process of beneficiary selection into confusion.

We have seen how different farmers, traditional institutions of authority and others involved in the DIP deal with their various situations of trying to make a living in a changing socio-cultural and economic space. This shows how the different actors live in constant interaction with others who have different views and thus different effects on each other's projects. This section generally discusses different views of farmers and their local leaders in a contested development intervention, and in their well-constructed and solid group identities.

There are theoretical and practical implications attached to the issues raised in the stories of farmers in the interviews, and the meeting with the Spirit Medium. For practical purposes of planning and implementing a people-friendly smallholder irrigation project, some of the overlooked cultural and social processes of change, together with the consequences and outcomes of such interventions are highlighted. A central point here is the way different groups of farmers relate to, and constantly change their relationship with each other, and to the main development project. Magadlela (2000) observed that the lives and relations of farmers in Nyamaropa irrigation scheme constantly changed when they came face to face with the realities and challenges of a government managed scheme. The project's planning process is an example of how the government and the project related to the proposed beneficiaries. The issue of people's rights, roles and responsibilities in development intervention is a sensitive spot in the discussion of the livelihoods of farmers in Chitsungu. Although it is difficult to have a clear dividing line between recent immigrants to the Valley, and long-term Valley people, the indigenous Korekore, there seems to be some resistance, struggles and negotiations between and within these groups.

An interesting part of the different responses to people's rights to water and resettlement is the way different farmers on opposing sides of the issue are aligned to different social and cultural groups, the way their group identities tend to collide and form new identities that form the Chitsungo life-world. Local indigenous Valley residents lost their rights to riverine cultivation when the MZVRDP began. Although the practice of riverine cultivation was central to human adaptation and agriculture in the Valley, the project set out to rupture this adaptation by prohibiting stream bank cultivation, by moving the designated arable areas away from rivers and by allocating riverine land for grazing areas. This seems to be one of the central issues that make them (indigenous Valley residents) reluctant to accept the DIP for fear of losing more land and associated rights to both immigrants and animals.

On the other hand, the migrant farmers in Chitsungo are ready to accept the irrigation project. This is mainly because they view the project as an opportunity to gain access to more land thereby enhancing their entitlement to Valley land. It is worth noting here that most recent migrants have been allocated land (illegally) on grazing land and its fringes. From the outset it should be noted that what we see here is more a contestation of rights to resource use and control between and within the two groups with socially rigid boundaries.

What the material in the above paragraph shows is that among different types of social groups in an open field of rural development or smallholder farming, there are contested domains within which exist battle grounds (social arenas) such as the allocation of land and other related fronts. Because immigrant farmers share the development domain with indigenous Valley residents and other outsiders in Chitsungo, definitions of the importance of resources such as land and water, for example, shifted constantly. What was interesting for the analysis of the people's views and aspirations on land rights, roles and responsibilities described in the early parts of the findings is the idea of the two main domains, indigenous vis-à-vis immigrant, around Chitsungo coming into contact, and doing this in a conflict situation where one party accuses the other of alleged deviance. Spierenburg (1990) pointed out that migrants to the Dande communal land had different and often conflicting motives and interests for settling in the Valley. Their conflicting motives, one might argue, along with Spierenburg, have formed part of the reason why there appears to be a seemingly permanent standoff between indigenous Valley settlers and immigrants. The accommodation of various identities (immigrant, indigenous, Chikunda and Korekore) in resource allocation and control between rival groups raises the analysis onto another level of theoretical arguments, that of temporary merging, and in the process reaffirming of identities and alliances between the various groups. The Valley people, immigrants and indigenous, are divided when it comes to the allocation of strategic resources. When it comes to other matters where the community is involved with the outside world, they try to present a united front like they did against the Chinese contractors.

The study shows that group cultural identity and difference from other groups is a social construction. It is an aspect of identity assembled and manipulated to serve specific group interests. Chitsungo, with all its multiple realities of competing groups, one's group identity was (is) an important resource in the negotiation process. An example here is the conflict among groups of farmers and their solidified identities, especially when some immigrant farmers supported the new settlement exercise and the impending irrigation scheme against the indigenous Valley people and the *mhondoros* which had the majority of Valley people as their supporters. It is not without irony that the same immigrant farmers sought the permission of the traditional forms of authority and local residents on their initial settlement.

Leadership, as a position of influence, takes shape in competition and is always fluid in that, like power and identity, it is relational. This means that it is reliant on the types of relations that the ones seeking it literally play into the hands of their rivals in order to be able to actively negotiate their status in a given situation or contestation. The drama between traditional institutions of authority, the project planners, and the local farmers in Chitsungo is no exception. The *Mhondoro* succeeded at least for once, when the project planners, and ARDA, agreed that some rituals would be performed in respect of the traditional forms of authority. However, the headmen seem to have lost their grip of influence to more politically aligned leaders such as local councilors and some civil servants. This is not simply because the councillors seem to be more educated, but because they seem to have succeeded in urging the rest of the immigrant farmers against



the sectional and temporarily unpopular *chisi* and other rituals observed by indigenous Valley leadership and residents. From the foregoing it seems new (political) forms of authority and traditional authority contest each other's influence on beliefs and values of the same people in their territories. This has implications on the successful management of the irrigation project upon its inception. Given that life in an irrigation scheme requires co-operation and sharing of resources, the polarization of the intended beneficiaries into different camps may not be ideal for meeting the objectives of the project.

On the issue of interveners such as extension agents, designers and planners like ARDA and Agritex, one needs to look at their role from design to implementation. In conventional irrigation design practices, such as the DIP, the technical system is primarily built around physical data and technical norms. As such, a more or less explicit picture of the expected use of the system is presented. This expected use, however, is usually not related to an in-depth understanding of the existing social environment. It is worth noting that for the success or at least good management of irrigation projects, possible forms of use should be considered in relation to physical conditions on the one hand and social requirements and limitations on the other. An example, to illustrate this from the findings, is the perceived reluctance and delayed consultations and awareness campaigns by ARDA. The interview with an official at the ARDA head office revealed that no awareness campaigns have been done to mobilize support and get an input from the Valley residents. This is despite the fact that the construction of the dam and in-lay tunnels had been going on for six years.

## 7.CONCLUSIONS AND RECOMMENDATIONS

### a) Conclusion

My findings from the Chitsungu case study is that the DIP is at the meeting points of social actors where group identities and differences among them are exhibited, be they ephemeral appearances (such as legal/illegal settler labels), or seemingly permanent characteristics such as ethnic affiliation. It is a detailed and in-depth sociological case study of a technical project being constructed with little input of a sociologist. On the whole, this study offers a different voice in literature on irrigation development in Zimbabwe. The contention throughout the case study, as I hope to have shown, is that the project structure and organisation should not only be feasible from the technical point of view but also must be sustainable in socio-economic and institutional terms. This requirement implies that, consistent with national policies, interventions must be formulated to enhance cost recovery and cost efficiency while at the same time addressing key institutional issues. These issues range from leadership legitimacy; legislation and regulations; responsibility and accountability to the provision of the requisite skills within which a sound beneficiary participation framework could be mapped out. As such, the actor-oriented approach helps to get to grips with the complex processes of the transformation of rural areas in situations of external intervention that mean to improve local livelihoods in one or several ways. It is my hope that a fuller understanding of the local dynamics within development situations requires multidisciplinary and actor perspectives to investigate and understand them closely before making policy recommendations. Smallholder irrigation development should pay attention to the co-existence of a multiplicity of social groups and multiple realities.

Development practitioners and extension officials need to recognise that rural people in development intervention scenarios internalise and process interventions and create their own interpretations and meanings, while positioning themselves strategically to benefit from the intervention at the same time. The Chitsungu case showed that potential beneficiaries to the DIP are forming alliances and coalitions to mobilize support to their differential positions in relation to the project.

### b) Recommendations and Lessons

Out of this study of planning and practice in development intervention come some lessons with wider applicability:

- Strengthening knowledge of, and respect for, traditional institutions of authority has significant potential for creating an enabling environment for development intervention in cases such as that discussed in this paper.
- The degree of empowerment of traditional leaders within the modern system of government structures can influence development that is motivated by traditional values and practices. Policies that support traditional institutions and empower traditional leaders can foster development in such cases.

- Non-local organizations and outsiders can play a potentially catalytic role in fostering both social and economic prosperity. My experience in Chitsungu has shown that the presence of outsiders who are interested in learning and understanding traditional culture and development issues can catch the attention of local people, and of modern and traditional leaders. The interest from outsiders may shift power balances so that traditional leaders might get more leverage in development interventions.

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**APPENDIX 1: Table showing the key informant sample breakdown.**

Respondents' attributes	Total number interviewed
Chiefs	1
Headmen	5
Councillors	3
Member of Parliament	1
Spirit Medium	1
Extension staff (Agritex)	2
ARDA officials	2
Widowed women	9
Child headed households	4
Male headed households	37
<b>Total number of respondents</b>	<b>65</b>

**APPENDIX 2: The Water use and management survey instrument**

Date ..... Place .....

Interviewer ..... Number of Interviewee .....

Any other additional observations .....

.....

**Part I. Household information**

Obtain the following household information for the owners/users of the garden

    The head of household and approximate age

    The spouse and approximate age

    Who is living at the household: number, their ages, their education and if in school or not

The household=s sources of income: wage labour, business, remittances, farming (sale of produce from fields, from gardens), profession, pensions, etc.

Household members not living at home but who contribute to the household

Other farming activities

When did the household begin gardens? Why did they begin? Where was their first garden?

1. Obtain a history of the area used for gardens. What were its earlier uses? When did gardening begin? Why did gardens begin? What else was and is the area used for? How has it changed ecologically?
2. How did woman or household obtain access to the land? To whom does the land belong? Who went to obtain permission? From whom did they ask permission?
3. When did she/he do this? Was it easy or difficult to obtain?
4. What crops did they plant when they began? Try for a complete list of all crops

- 5. Who works with you on the land? Children; husband, hired labour, sisters? How important is this labour? What are the most important tasks or jobs of this labour?
- 6. Who disposes of the income earned from the land?
- 7. What is the income used for?

**Part II. Tenure Issues:**

- 1. Who owns the land?
- 2. Can this land be inherited by the children of those who now work it?
- 3. If it is possible to inherit this land who would inherit this land in your family? Why?
- 4. What makes for good garden land?
- 5. Has anyone ever been denied access to garden land?
- 6. Is adequate water a problem for you? What is the nature of the problem?
- 7. Are there conflicts over water for the gardens?
- 8. If there is a water source/shallow well inside a garden who may use the water?

**Part 111: Irrigation and Development**

- 9. Would you like to join an irrigation project?
- 10. Who do you think should be responsible for allocating land for irrigation?
- 11. Do you know about the Dande Irrigation Project? Yes No
- 12. When did you first know about the DIP?
- 13. From whom did you obtain the information?
- 14. Was the information easy to obtain?
- 15. Would you like to join the DIP? Yes No

Explain.....

**Part 1V: Institutions and authorities**

- 16. Who manages water sources in the village?
- 17. Who owns the water source?
- 18. Are there any rules and regulations governing the use of water? Yes No
- 19. Who sets the rules?
- 20. Is there a committee in the village?

21. What are the functions of the committee?
22. Who are the members of the committee?
23. What is the gender composition of the committee?
24. How does one become a committee member?
25. How long is the term of office for the committee?



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